

R E S O N A T E I T

GOODSTART EARLY LEARNING

05 DECEMBER 2014

Current State Review

This document presents the analysis of the SharePoint implementation at Goodstart. It suggests a course of action to improve support and future continuous integration of the SharePoint environment. Read on...

SharePoint Consultants

SharePoint & .NET
Development

Business Intelligence

Enterprise Content
Management

System Integration
Specialists

Resonate IT

70 Prospect Terrace, Kelvin
Grove, Brisbane, QLD 4059

Tel: 07 3103 1496

www.resonateit.com.au

ABN: 77 151 840 201

Table of Contents

Introduction	2
Farm Analysis	2
Farm Size	2
Content Analysis	3
Database Content.....	4
Types of Content	4
Site Collection Storage	5
Configuration	5
Server and Services Analysis	6
Farm Health	8
Solutions and Applications	9
Business Environment.....	10
Skills Maturity	10
Virtual SharePoint Support	11

Introduction

Resonate IT have over 10 years of experience working with the entire SharePoint platform, developing complex solutions and helping clients all over the globe. We know how to get the most out of the platform! Importantly, we understand the correct way of designing, developing, and deploying solutions to meet business needs.

Goodstart provide early learning centres that provide Australia's children the best possible start in . Goodstart believe children are central to everything they do. It's a belief that's driven them since 2009, when ABC Learning was purchased following its voluntary liquidation.

Goodstart have requested Resonate IT services to implement usage tracking and analysis across it's various intranet platforms. Three main technologies provide those platforms and each includes an element of usage analysis none of which are easily consumed, interpreted or detailed enough to provide accurate statistics. Moreover, each uses proprietary method to capture and report on usage statistics making it extremely difficult to provide usage comparisons or consolidated reporting.

Google analytics is industry-grade, well adopted and consolidates information into a single source of analysis. It is also relatively simple to implement making it an ideal tool to capture, consolidate, analyse and report on usage across disparate web based systems.

Farm Analysis

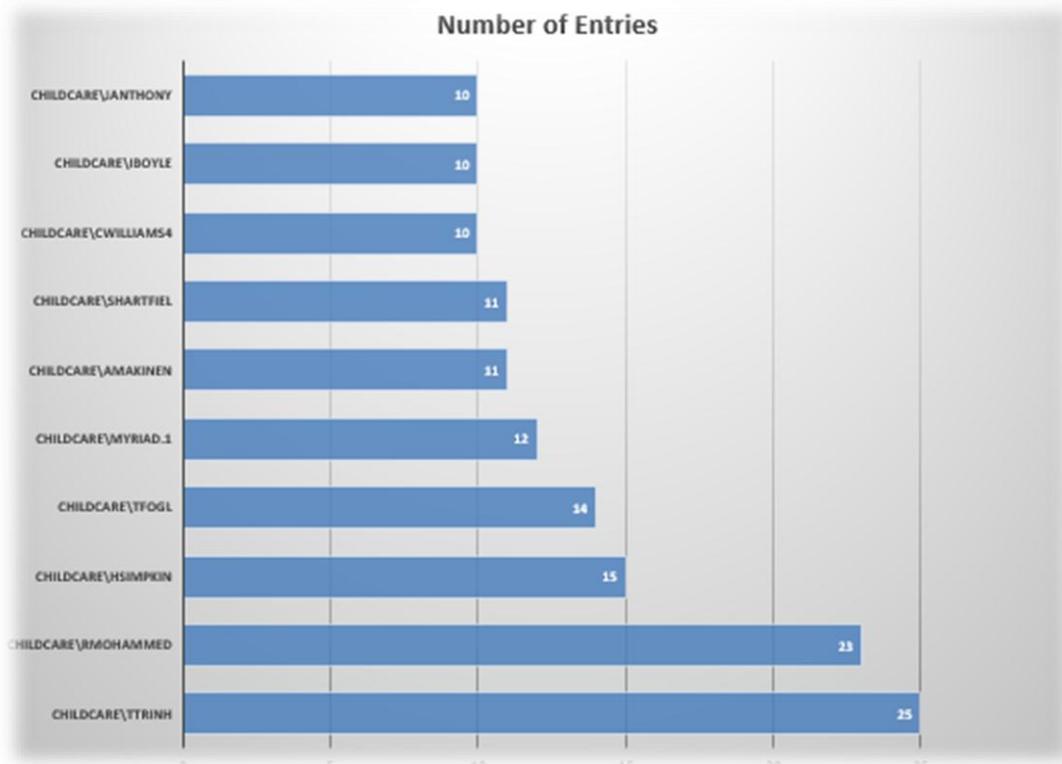
During an intensive on-site session Resonate IT personnel were able to appropriately assess and examine the existing SharePoint farm. The following sections describe the farm and the findings of this engagement.

Farm Size

Goodstart are using the Enterprise version of SharePoint 2013, this version of the product includes the full SharePoint feature set.

There are 2785 registered users of the system. The underlying statistics gathering tools show that on average, per month:

- The most popular pages (non-system) were policy pages, with a number of policies receiving similar hit rates.
- The most active (non-system) users are as shown in the following diagram



- There are on average 508 page views per day
- Internet Explorer 7.0 is the predominant browser however there are limited versions of IE 9, 10 & 11 in use. No other browser types are registered - Chrome, Firefox etc.
- Search use is quite low given the content of the portal
 - The initial thought on uncovering these statistics were that search may not work or that search may not work for all users. However on investigation it would seem that search is functioning and this may be indicative of an application based search (see below).

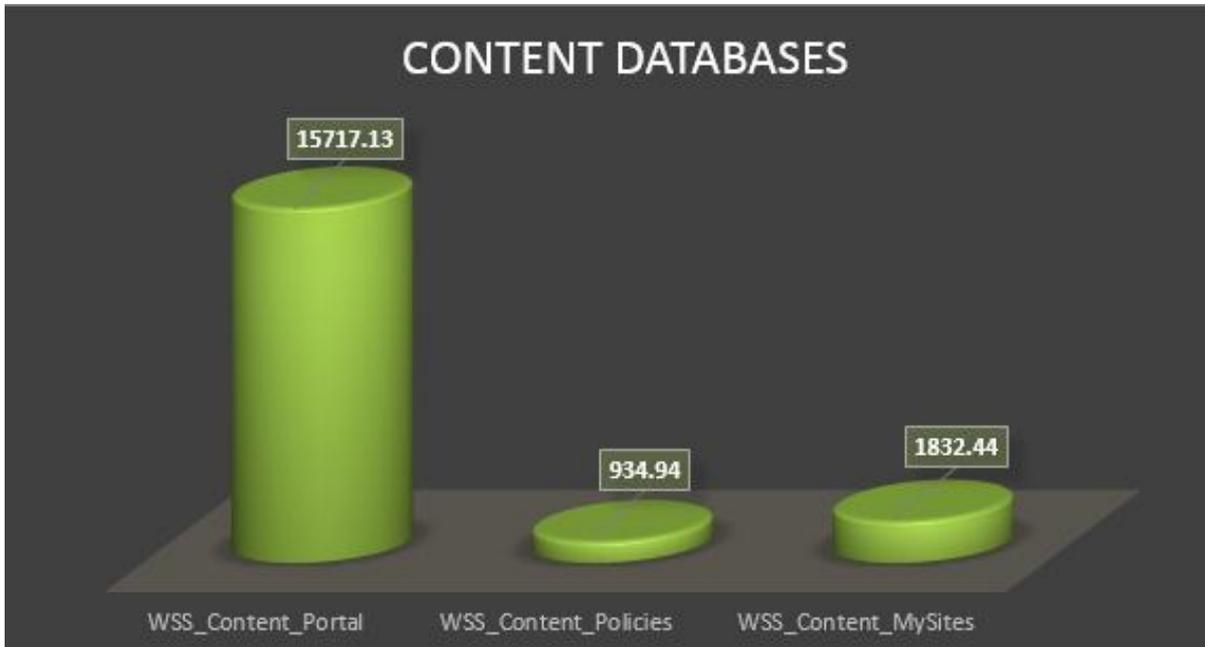
Many of the most popular pages (policies) are accessed via a complex URL. The URL consists of a base path and query string. Through analysis it can be determined that the query string identifies a unique document in the policies library. The system in place is a custom developed document lookup system that spans the legacy intranet and SharePoint policies library.

Content Analysis

Resonate IT staff used their content analysis tool to interrogate the content and structure of the sites. The following observations were made.

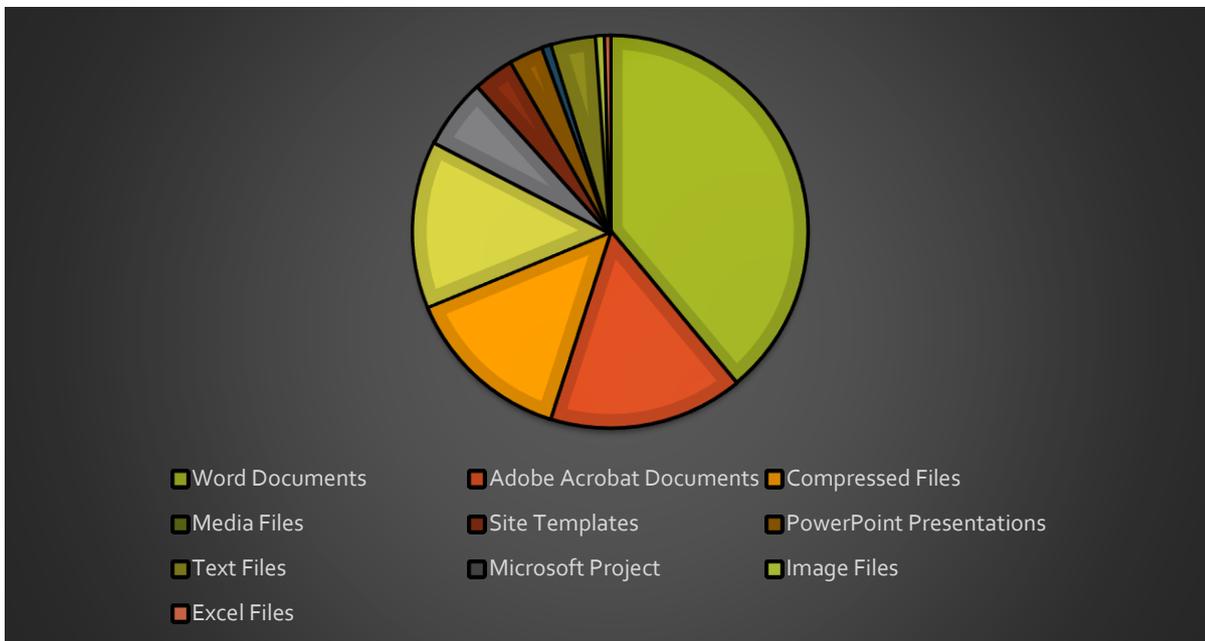
Database Content

The following chart shows the data stored in each of the major databases in use. There is a disparity between the total content stored and the physical size of the database, this is indicative that the database has not been the subject of regular maintenance.



Types of Content

The following table shows the major types of content stored in SharePoint libraries:



Site Collection Storage

The following chart shows the capacity of storage being used by each site collection with a content databases:



Configuration

There are two SharePoint servers in the production farm called BNEVSWP01 and BNEVSAP01. The servers are supplying SharePoint Front End, Application and Central Administration services. Additional servers are being used to supply SQL data services (BNEVSQL16) and Office Web Applications (BNEVSOP01). Additionally email integration is served from mail.goodstart.org.au. Directory services and authentication is served from the corporate directory services farm (Active Directory).

The main content databases in use are WSS_Content_Portal, WSS_Content_Policies and WSS_Content_MySites running on the default SQL instance on BNEVSQL16. **The server is dedicated to SharePoint databases.**

The following image shows the current version of SharePoint that is installed:

Farm Information

Configuration database version: 15.0.4551.1001

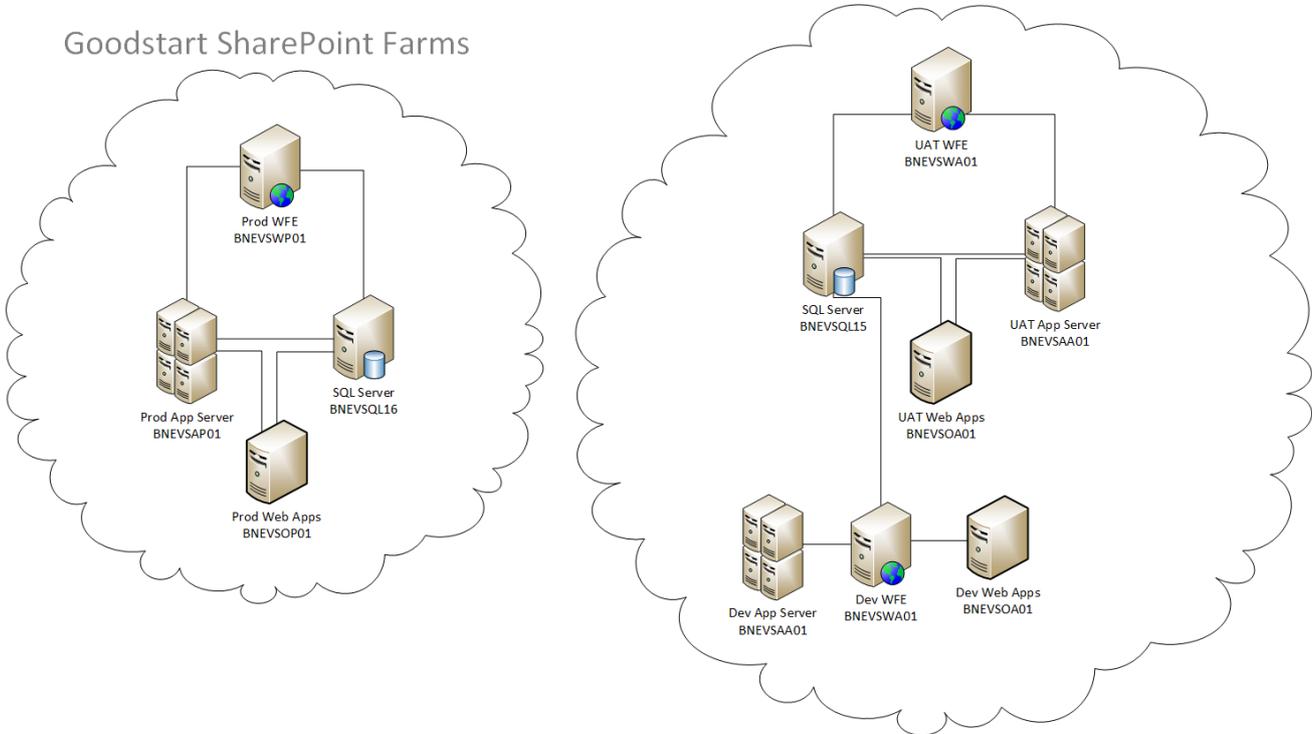
Configuration database server: SPDB-Production

Configuration database name: SP_Configuration

Server and Services Analysis

In addition to the production farm the following diagram shows all the environments currently in use at Goodstart:

Goodstart SharePoint Farms



The server configurations of the production farm are included below:

Name	CPUs	Cores	RAM	Disk Space	Remaining
BNEVSAP01	4	4	12GB	80GB (C) / 80GB (D)	60% / 87%
BNEVSAP01	4	4	12GB	80GB (C) / 80GB (D)	41% / 87%

Within the production farm the Web Front End server (BNEVSWP01) is running the following services:

- Search Host Controller Service
- Managed Metadata Web Service
- Microsoft SharePoint Foundation Workflow Timer Service
- SharePoint Server Search
- Search Query and Site Settings Service
- Microsoft SharePoint Foundation Web Application
- Microsoft SharePoint Foundation Administration
- Microsoft SharePoint Foundation Timer
- Application Discovery and Load Balancer Service
- Distributed Cache

The application server (BNEVSAP01) is running the following services (duplicate services that could be consolidated are highlighted):

- **Search Host Controller Service**
- App Management Service
- **Managed Metadata Web Service**
- Access Services
- User Profile Synchronization Service
- Business Data Connectivity Service
- Search Administration Web Service
- Secure Store Service
- Claims to Windows Token Service
- Microsoft SharePoint Foundation Workflow Timer Service
- Performance Point Service
- Visio Graphics Service
- SharePoint Server Search
- Document Conversions Launcher Service
- Document Conversions Load Balancer Service
- **Search Query and Site Settings Service**
- Work Management Service
- **Microsoft SharePoint Foundation Web Application**
- Central Administration
- Excel Calculation Services
- User Profile Service
- Access Database Service 2010
- Microsoft SharePoint Foundation Subscription Settings Service
- Microsoft SharePoint Foundation Administration
- Microsoft SharePoint Foundation Timer
- Word Automation Services
- PowerPoint Conversion Service
- Application Discovery and Load Balancer Service
- Machine Translation Service
- Distributed Cache

A full analysis of each farm was not completed, however in both high level overview and through discussion with in-house resource it was established that there is concern that the content and configuration of UAT and production environments are not managed appropriately and kept sufficiently in-step with each other.

HIGHLIGHT: There is no agreed mechanism to refresh data from the production farm back into UAT. Significant time is often expended developing and testing application changes which when released to production fail due to data or configuration inconsistencies. A regular and partially automated refresh should be implemented to strengthen test assurance and minimise development cycles with their associated costs. This is exasperated in the Nintex workflow development cycles.

User and group security is being applied on a per need basis meaning that the permissions structures in place and becoming too complex to manage should SharePoint be adopted more widely.

HIGHLIGHT: It is suggested that a consolidation of access rights is performed and that best practise principles are employed where possible. Best practise would advocate that a users' permission to a

resource is not given directly but is given by proxy to an Active Directory group or role. Only where a business justified exception can be made should direct access be applied to a user.

There are a number of site collections each containing the sites, lists and libraries required by the business to date. Although relatively low usage is apparent across the business ICT and policies are in constant use. All data stored in SharePoint accounts for a total of 17GB of data. Producing a bandwidth of 87 MB/day.

The following alternate access mappings exist:

Internal URL	Zone	Public URL
http://portal	Default	http://portal.goodstart.org.au
http://policies	Default	http://policies.goodstart.org.au
http://mysites	Default	http://mysites.goodstart.org.au
http://portal	Default	http://portal.goodstart.org.au

There is no SSL certificate installed for any web application and no evidence of external accessibility to the server or addresses.

HIGHLIGHT: There is no high availability or disaster recovery in place for the SharePoint implementation. Although this may not be required at present it should be considered as SharePoint becomes more fully utilised or if policies and procedures cannot withstand a lengthy period of unavailability.

Farm Health

The current health of the farm is **reasonable** with some notable exceptions. The server health reports, SharePoint logs and windows logs indicate some low level issues that would benefit from resolution.

1. Very little maintenance is evident on the server, the last patch to be applied was the **October 2013** Cumulative Update (15.0.4551.1001) indicating that it may be that more than a year since the server was last maintained. General best practise would be to allow a number of months (3 to 6) between patch availability and patch application however more than 12 months would be ill advised.
2. SharePoint databases are running in compatibility mode, this can be caused by a number of issues:
 - Application of the March 2013 cumulative update without performing clean up tasks
 - Application of a failed patch / cumulative update
 - Application of a patch or cumulative update without running PSConfig afterwards
3. The OAuth proxy may be causing the user profile service to fail, although there was no evidence of complete failure there exist a number of warning relating to the configuration of the OAuth machine translation application proxy.
4. The web front end server is running out of available memory although 12GB is allocated which is appropriate there is a service which is consuming large amounts of memory. The service could not be identified during the timescale of the analysis.
5. Although an error indicating that server side dependencies were missing, this is often the result of an upgrade from a previous version of SharePoint and is unlikely to be causing any adverse impact.
6. It appears that the service accounts used for SharePoint may not be configured with the correct permission levels on their respective servers. During investigation, we were not given sufficient access to ascertain their permission levels however a group policy report supplied by the infrastructure team indicates service account privileges have not been limited.

HIGHLIGHT: Regular and appropriate maintenance of the existing SharePoint farm is not evident. It is recommended that a patch management plan is implemented and monitored.

Availability and Backup

There are a number of concerns regarding the farm's availability and backup planning.

Resonate personnel were able to speak with Goodstart's infrastructure team. With respect to availability, the only mechanism in place to ensure the environment can continue to run in the event of any type of failure is Goodstart's Hyper-V Virtual Machine Cluster. This will protect the environment in the event of a physical server or storage failure only. Additionally, a failure of this kind will result in a minimal disruption to the service as the virtual machines are migrated to new hardware and restarted.

There is no mechanism protecting the environment at the application layer. That is to say, if a failure occurred at the OS level (Windows) the service would be interrupted indefinitely until it was restored from a backup or rebuilt. At the time of our investigation, the infrastructure team indicated that there was no backup for SharePoint services. A failure at this layer will result in having to rebuild to SharePoint farm. Given the amount of current and potential users, Resonate recommends that the SharePoint web front end services should be extended and load balanced with a second virtual machine. Additionally, the SharePoint application services (on BNEVSAP01) should be duplicated with an additional virtual machine and incorporated into the farm. In this scenario, failure at the OS level of any of the virtual machines in the farm would result in failover to its redundant counterpart minimising downtime to minutes.

Likewise, there is no mechanism for failover at the data level. The SQL services that support the SharePoint farm are delivered by a single virtual machine and SQL instance in the default configuration. Resonate recommends that the SQL Server be extended onto a second virtual machine in a clustered configuration to enable failover in the event of a virtual machine failure.

The infrastructure team indicated that the only backup in place for SharePoint services was a backup of the SQL databases that support the services. This is an inefficient method as restoration of the services from total failure at the application layer will require that the SharePoint farm is rebuilt from scratch. Once the farm is rebuilt, the SQL databases may be attached to once again access content. One to two days of downtime is expected in this scenario. Resonate recommends that all virtual machines in this environment be backed up to avoid this situation.

Solutions and Applications

There are a number of traditional solutions deployed to the farm and a single branding solution is well architected. The applications of note are included in the table below:

Name	Status	Scope	Status
DMS: Branding	Deployed	Site	In Use
DMS: Navigation	Deployed	Site	In Use
DMS: Page Layouts	Deployed	Site	In Use
DMS: Files	Deployed	Site	In Use
DMS: Tabs	Deployed	Site	In Use
Nintex Workflows	Manual	Web	In Use

Business Environment

This section describes the less technical observation of the review such as how the competencies of the IT team to react to business requirements to enhance the SharePoint platform. It also considers the maturity of users in their ability to effectively use and maximise the potential of the platform.

Skills Maturity

It was relatively clear from the review that Goodstart are in the infancy of their use of SharePoint technologies. However, where business need exists such as policy and procedure use, users are engaging and seeing value in the SharePoint implementation they have available. There is good overall use of the platform for this single purpose and statistics to support the view of SharePoint as a valued and underpinning business application.

The use of the content management aspect of the system that can be observed is as a rudimentary document store (specifically within ICT) and would indicate that the portal is seen as a place to store documents and data rather than a structured collaborative environment. A degree of value is being provided by utilising SharePoint to manage tasks and issues.

The IT team have a reasonable understanding of SharePoint from a power-user and customisation perspective. Mentoring is required to raise the in-house skillsets to a level that would support greater self-sufficiency in two major areas:

- Daily and regular continuity tasks
- Administration and development

Users have had very little exposure to the underlying capabilities of the SharePoint platform and whilst no direct analysis has been performed it is likely that a degree of change management and training would be required to maximise efficiencies.

Virtual SharePoint Support

It is understood that a current agreement is in place to support and manage the SharePoint farms in place at Goodstart Early Learning. A comparative service has been requested of Resonate IT. Whilst a number of deficiencies have been identified in the existing environment this is not necessarily indicative of any failure on the part of the incumbent supplier. Resonate IT were not made aware of the responsibilities of either party to identify issues, proactively apply updates or monitor failing services. None of the identified issues are fatal to the continued use of SharePoint or critical to the business application of SharePoint at Goodstart.

The Resonate IT Virtual SharePoint Administration (VSA) service allows an organisation to minimise the administrative burden of their SharePoint investment in the knowledge that dedicated and highly skilled experts support them. Our automatic reporting tools alert staff to underlying issues in the environment so that we can be proactive as well as reactive to your support needs.

To support the current server farm Resonate IT would suggest that a **Gold** level of service is engaged to support the business in their use of SharePoint. Our levels of service are included below:

Service	Cases	Code-hours	Robot	Response	Updates	Cost
Bronze	15	0	No	8 hrs.	No	\$946.00
Silver	20	2	Yes	4 hrs.	No	\$1,540.00
Gold	25	4	Yes	2 hrs.	Yes	\$2,750.00
Platinum	Unlimited	8	Yes	2 hrs.	Yes	Negotiated

The VSA service is a pre-paid service and commences on the date funds are received each calendar month. There is no minimum term or penalty for cancelling the service.

If you decide to progress with a VSA service you will be asked to complete and return our on-boarding questionnaire which allows us to gather contact points for in and out of hours support queries and all relevant information required to transition your support to us.

We like to be as open as possible with our clients and the table below shows our costs outside of the hours of your agreement. With the exception of our support costs, which are significantly discounted for our VSA clients, these are our standard rates:

Service	Charge Rate	Period	GST Inclusive
Consultancy / Principle	\$175.00	Per hour	\$192.50
Development	\$165.00	Per hour	\$181.50
Support (VSA clients only)	\$135.00	Per hour	\$148.50

Unlike our competitors we see the relationship between our client and ourselves as one that when nurtured long-term leads to mutual benefit. When our clients overreach their VSA allowances we charge them an appropriately discounted rate, we see this as an incentive for future project work and as an acknowledgement of the partnership we have formed.

The VSA service is tailored to the business based on a current state review and may change if additional services are added to the SharePoint platform.